

SECTION III—REMARKS

This amendment is submitted in response to the Office Action mailed February 9, 2005. Claims 1, 9 and 19 are amended herein, and claims 1-26 remain pending in the application. Applicants respectfully request reconsideration of the application and allowance of all pending claims in view of the above amendments and the following remarks.

Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 1-26 as anticipated under 35 U.S.C. § 102(e) by U.S. Patent No. 6,661,939 to Kaneko *et al.* (“Kaneko”). Applicants respectfully traverse the Examiner’s rejections. A claim is anticipated only if each and every element, as set forth in the claim, is found in a single prior-art reference. MPEP § 2131; *Verdegaal Bros. v. Union Oil of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). As further explained below, Kaneko cannot anticipate these claims because it does not disclose every element and limitation recited therein.

Claim 1, as amended, recites an apparatus combination including an optical die flip-chip bonded to a substrate and defining a volume between the optical die and the substrate, the optical die including an optically active area on a surface of the die facing the substrate, an optically transparent material occupying at least those portions of the volume substantially corresponding with the optical path of the optically active area, and “an opaque underfill material occupying portions of the volume not occupied by the optically transparent material.” Kaneko does not disclose a combination including the recited limitations. Kaneko disclosed that the entire volume between the substrate 1 and the optical die 5 is filled with a single, optically transparent underfill material 7. Kaneko does

not disclose the simultaneous use of more than one underfill material in the volume between the substrate and the die, nor does it disclose that the portions of the volume not occupied by an optically transparent underfill material are filled by an opaque underfill material. Kaneko therefore does not disclose, teach or suggest a combination including “an opaque underfill material occupying portions of the volume not occupied by the optically transparent material.” Applicants submit that Kaneko therefore cannot anticipate this claim, and respectfully request withdrawal of the rejection and allowance of the claim.

Regarding claims 2-8, if an independent claim is allowable, then any claim depending therefrom is also allowable. *See generally* MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 1, as amended, is in condition for allowance. Applicants respectfully submit that claims 2-8 are therefore allowable by virtue of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicants therefore respectfully request withdrawal of the rejections and allowance of these claims.

Claim 9, as amended, recites an apparatus combination including an optical die flip-chip bonded to a substrate and defining a volume between the optical die and the substrate, the optical die including an optically active area on a surface of the die facing the substrate; an optical component partially positioned in the volume between the optical die and the substrate to carry an optical signal to or receive an optical signal from the optically active area; an optically transparent material occupying those portions of the volume substantially in the optical path of the optically active area; and “an opaque underfill material occupying portions of the volume not occupied by the optically transparent material and the optical component.” By analogy to the discussion above for claim 1,

Applicants submit that Kaneko does not disclose, teach or suggest a combination including “an opaque underfill material occupying portions of the volume not occupied by the optically transparent material and the optical component.” Applicants submit that Kaneko therefore cannot anticipate this claim, and respectfully request withdrawal of the rejection and allowance of the claim.

Regarding claims 10-18, if an independent claim is allowable, then any claim depending therefrom is also allowable. *See generally* MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 9, as amended, is in condition for allowance. Applicants respectfully submit that claims 10-18 are therefore allowable by virtue of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicants therefore respectfully request withdrawal of the rejections and allowance of these claims.

Claim 19, as amended, recites a system combination including first and second optical dies, each optical die being flip-chip bonded to a substrate and defining a volume between the optical die and the substrate, and each optical die including an optically active area on a surface of the die facing the substrate, an optical component extending between the first and second optical dies, the optical component partially positioned in the first and second volumes, an optically transparent material occupying those portions of the first and second volumes substantially in the optical paths of the optically active areas, and “an opaque underfill material positioned in the first and second volumes, the opaque underfill material occupying portions of the volumes not occupied by the optically transparent material.” By analogy to the discussion above for claim 1, Applicants submit that Kaneko does not disclose, teach or suggest a combination including “an opaque underfill material

positioned in the portions of the first and second volumes, the underfill material occupying portions of the volume not occupied by the optically transparent material.” Applicants submit that Kaneko therefore cannot anticipate this claim, and respectfully request withdrawal of the rejection and allowance of the claim.

Regarding claims 20-26, if an independent claim is allowable, then any claim depending therefrom is also allowable. *See generally* MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 19, as amended, is in condition for allowance. Applicants respectfully submit that claims 20-26 are therefore allowable by virtue of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicants therefore respectfully request withdrawal of the rejections and allowance of these claims.

Conclusion

Given the above amendments and accompanying remarks, all claims pending in the application are in condition for allowance. If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to allowance of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned attorney at (206) 292-8600.

Charge Deposit Account

Please charge our Deposit Account No. 02-2666 for any additional fee(s) that may be due in this matter, and please credit the same deposit account for any overpayment.

Respectfully submitted,

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Date: 5-9-05

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